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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,680	09/22/2000	Sik Heng Foo	85773-229	9706

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EXAMINER	
TRAN, DZUNG D	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/667,680	FOO, SIK HENG	
	Examiner	Art Unit	
	Dzung D Tran	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/14/2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7 and 9-40 are rejected under 35 U.S.C 102(e) as being anticipated by Li et al. (U.S. Patent Application Pub. 2003/0053163 A1)

Regarding claims 1 and 39, Li et al. teaches channel equalization in a WDM optical network. Li et al. illustrates in FIG. 3A an example network comprising LTE/REGEN site A and site D, OADM site B and site C, optical amplifiers 50, 51 and 52, and spans 181-186. Li et al. teaches in FIG. 3B and FIG. 3C to convert the network into an equivalent network with analogous channels and teaches in FIG. 4A to adjust channel power according to measure OSNR. Of course, the actual measurement is done in each drop site instead of at the LTE of analogous channels. Li et al. defines in step 120 of FIG. 4A channel-specific figure of merit ΔOSNR and adjust power for all

channels if ΔOSNR>threshold iteratively. In other words, Li et al. defines a site-specific figure of merit as (max(ΔOSNR) over all channel) and adjusts power of each channel so that the site-specific figure of merit is less than threshold.

Regarding claims 2, 10, 17-18, 22, 26-29 and 36, Li further discloses each channel occupies a distinct wavelength (for example, channels λ1...λn), see page 2, paragraphs 0040-0042.

Regarding claims 3, 4, 11 and 12, Barnard further discloses function is the arithmetic and average function (see equations EQ(1) – EQ(10) of pages 5-7).

Regarding claims 5, 13, 19, 23 and 30 Li discloses the method for determining OSNR min and OSNR max and compare the difference between the maximum and minimum OSNR with a threshold (figure 4A, step 120, 125, 135, paragraphs 0100-0102 of page 6, paragraphs 0123-0124 of page 7).

Regarding claims 6, 14, 20, 24 and 32-35, Li further discloses the method for adjusting the input power of all transmitters (page 6).

Regarding claims 7, 15, 21 and 25, Li further discloses adjusting (increasing or decreasing) the transmit power at the transmitters site (same as add site of claimed) (paragraphs 0100-0103 of page 6, paragraphs 0123-0124 of page 7

Regarding claim 9, Li further discloses the bit error rate (BER) (pages 6, 7).

Regarding claim 16, Li further discloses the optical signal to noise ratio (OSNR) (pages 5, 6).

Regarding claim 31, Li further discloses a variable optical attenuator (figure 2A, element 17, page 3).

Regarding claims 37, 38 and 40, Li futher discloses a network manager (figures 3B, 3C, page 5) for controlling and equalizing the optical power.

3. Claims 1 and 39 are rejected under 35 U.S.C 102(b) as being anticipated by Askinger et al. (PCT Pub. WO99/21302, equivalent to U.S. Patent 6,643,055 B1)

Askinger et al. teaches in FIG. 3 an optical network with a plurality of nodes and in FIG. 7 structure of a node where w channels are dropped and z channels are added. Askinger et al. defines in page 3, line 4 power per channel as channel-specific figure of merit and defines in claim 1 the output power of an amplifier as a node-specific merit of figure. Askinger et al. teaches in page 14, line 18 that the number of outgoing channel is ny=nx+z-w. Askinger et al. teaches in FIG. 8 to control the amplifier based on the power per channel information and the number of channels information.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable Li et al U.S. 2003/0053163.

Regarding claim 8, Q (or quality factor) is a well known transmission characteristic in the art (i.e Q factor, BER, OSNR). Therefore, it would have been

obvious to a person of ordinary skill in the art to use the Q factor as a parameter for the evaluation of the characteristic of an optical fiber system and for channel performing the equalization in the WDM system.

Conclusion

6. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (571) 272-3025.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (571) 272-3022.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

DT

09/20/2004

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600